Fluoroquinolone-Resistant *Campylobacter* Causes Longer Suration of Diarrhea than Fluoroquinolone-Susceptible *Campylobacter* Strains in FoodNet Sites

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Background: *Campylobacter*iosis is the most common bacterial foodbome disease; an estimated 2.4 million cases occur annually in the United States. Chickens are common sources of human *Campylobacter* infections. Fluoroquinolones (e.g., ciprofloxacin) are commonly used in adults for the treatment of acute gastroenteritis, including *Campylobacter*iosis. In recent years, however, an increasing proportion of *Campylobacter* isolates have been resistant to fluoroquinol ones. This increase temporally followed the approval of fluoroquinolone use in chickens in 1995. We sought to determine the influence of fluoroquinolone resistance on the duration of diarrhea among persons with *Campylobacter*iosis.

Methods: We conducted a 12-month case-control study in 1998 and 1999 in the Emerging Infections Program's Foodbome Disease Active Surveillance Network (FoodNet) sites (California, Connecticut, Georgia, Maryland, Minnesota, New York, Oregon). Telephone interviews using standardized questionnaires were conducted with persons with culture-confirmed *Campylobacter* infections. Isolates were tested by E-test in Connecticut, Minnesota, New York or at CDC for antimicrobial susceptibility to ciprofloxacin.

Results: *Campylobacter* isolates from 858 patients were tested; 11% were ciprofloxacin-resistant. Among 424 persons who did not take immodium or lorilotil, the mean duration of diarrhea was 7 days (median 6 days). Among these 424, persons with ciprofloxacin-resistant infections had a longer mean duration of diarrhea than those with ciprofloxacin-susceptible *Campylobacter* infections (8 vs. 6 days, 0.02). The longer mean duration of diarrhea was most evident among the 67 persons who did not take an antimicrobial agent for their illness; mean duration was 12 days for persons with resistant infections versus 6 days for persons with susceptible infections (p=0.02). The longer mean duration of diarrhea was also present, however among the 111 persons who took fluoroquinolones and no other antimicrobial agent for their illess: 8 days for resistant infections versus 6 days for susceptible infections (p=0.02). These univariate results remained. significant after excluding patients who traveled internationally, had underlying medical conditions or immune disorders, or who took an antimicrobial agent in the 4 weeks before illness onset.

Conclusion: Patients with ciprofloxacin-resistant *Campylobacter* infections have a longer mean duration of diarrhea than those with susceptible *Campylobacter* infections. The association between ciprofloxacin-resi isolates and longer mean duration of diarrhea occurred among both patients who took ciprofloxacin for their illness and those who did not. Mitigation efforts are needed to preserve the efficacy of fluoroquinolones.

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